The RAND Corporation
1700 MAIN ST. · SANTA MONICA · CALIFORNIA 90406

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Dr. Joshua Lederberg
Department of Genetics
Stanford University
Stanford, California

Dear Dr. Lederberg:

Your outstanding work in the fields of physiology and genetics has suggested to me that you might possibly be interested in a rather unusual project, which has been under way for some time, and I am writing to ask whether you might wish to participate in it at its present stage.

The project is concerned with the development of better techniques for assessing the direction of long-range scientific and technological trends and their probable effect on our society and our world. The RAND Corporation, under whose auspices we are undertaking this work, is engaged in a variety of studies, all related in a general way to the security of the United States and in many instances to plans and policies regarding the relatively distant future. The particular approach in this project is a new one; it is not a technique that we have used, except experimentally, in our work thus far.

We are well aware, of course, that we cannot remove the veil of uncertainty from the future. Yet plans have to be made and are being made, based often, in the absence of an adequate theory as to the course of future events, on only vaguely perceived expectations. Intuitive judgment, therefore, is an integral part of the planning process, the more so the farther we need to look into the future.

If the planning horizon is only 5 or 10 years away, standard trend projections by extrapolation from the recent past and knowledge of current activities are usually fairly reliable. For the more distant future, increased reliance on subjective appraisal becomes inevitable. In the proposed study, which is concerned as much with the methodology as the substance of forecasts beyond a 10-year horizon, we are trying out a new approach. Far from denying the necessity of reliance on

intuitive judgment, we are striving to develop techniques which will deal with expert intuition in an organized manner and, in full recognition of the uncertainties involved, permit us to make at least contingency forecasts of future trends.

We have been experimenting for almost 15 years with various approaches to such problems and have evolved several promising techniques. (Some of these, incidentally, have been subjected to empirical verification, with gratifying results.) The essence of the method to be employed in this present study is a controlled opinion feedback in which a panel of experts exchanges reasoned opinions anonymously and through an intermediary. This feedback tends to produce a converging group consensus. We are at present using this method to examine questions in various fields related to the future 10 to 50 years hence; you are particularly invited to join in correspondence a panel which is investigating questions concerned with scientific breakthroughs. The subjects of the panels which are functioning in parallel during this phase of the study are: Scientific Breakthroughs, Population Control, Automation, Space, War Prevention, and Weapon Systems.

Obviously, the results obtained by this type of predictive technique depend heavily on the participants. For this reason, in selecting our respondents, we have attempted to include persons of recognized achievement, particularly those who have demonstrated both the ability to think ahead and an interest in the future progress and direction of their fields.

Opinions stated by respondents should be non-proprietory and unclassified in content. Since we are dealing with the relatively distant future, we believe that these restrictions will not in any way damage the study. It is a necessary precaution, though, because the research staff conducting the study, in submitting opinions expressed by some respondents to others for critique, must be unimpeded by considerations of industrial or military secrecy.

Participants will be anonymous during the study; names will be included in a report on its outcome only with the participant's permission. Such a report, which will be submitted to the Air Force, will also be made available to the members of all panels. If the results justify, we may subsequently seek publication in one of the technical journals.

We sincerely hope that you will be intrigued by this project and will consent to join us. If you elect to participate, please send us a note to this effect. We will then mail you a questionnaire currently in preparation, which will first summarize whatever consensus seems to have been reached thus far by the panel you are being asked to join, and then invite you to give us your own appraisal of these findings.

Sincerely yours,

Olaf Helmer

Olaf Helmer

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